

**BARNES & THORNBURG**



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***IN THE UNITED STATES PATENT AND TRADEMARK OFFICE***

*Group:* 1753

*Confirmation No.:* 5525

*Application No.:* 10/634,056

*Invention:* APPARATUS AND METHOD FOR  
CONTROLLING THE OXYGEN-TO-  
CARBON RATIO OF A FUEL  
REFORMER

*Applicant:* Rudolf M. Smaling

*Filed:* August 4, 2003

*Attorney*

*Docket:* 9501-73118

*Examiner:* Unknown

Certificate Under 37 CFR 1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

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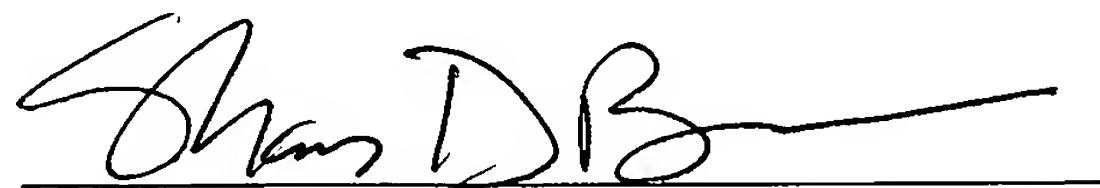
Sir:

This statement is filed in the application identified above pursuant to 37 C.F.R. § 1.56. This statement supplements an electronic statement filed on December 9, 2003, which cited one hundred eighteen (118) U.S. patent references. No representation is intended that a complete search has been made of the prior art or that no better art references than listed below are available. A copy of each reference is provided for review by the Examiner. The filing of this Statement shall not be construed to be an admission that the information cited in the Statement is, or is considered to be, material to patentability as defined in §1.56(b).

Please charge any fees that might be due in connection with this Supplemental Information Disclosure Statement to our Deposit Account No. 10-0435. An extra copy of this Supplemental Information Disclosure Statement is enclosed for that purpose.

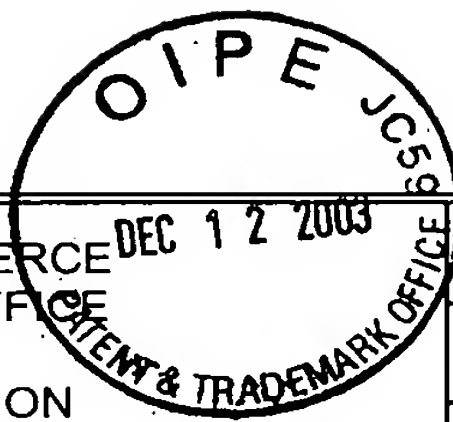
Respectfully submitted,

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A handwritten signature in black ink, appearing to read "Shawn D. Bauer", written over a horizontal line.

Shawn D. Bauer  
Attorney Reg. No. 41,603

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SUPPLEMENTAL INFORMATION  
DISCLOSURE STATEMENTATTY. DOCKET NO.  
9501-73118SERIAL NO.  
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Rudolf M. SmalingFILING DATE  
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*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
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	AL	WO 00/26518A1	May 11, 2000	PCT			X
	AM	WO 01/14702 A1	Mar. 1, 2001	PCT			X
	AN	WO 01/14698 A1	Mar. 1, 2001	PCT			X
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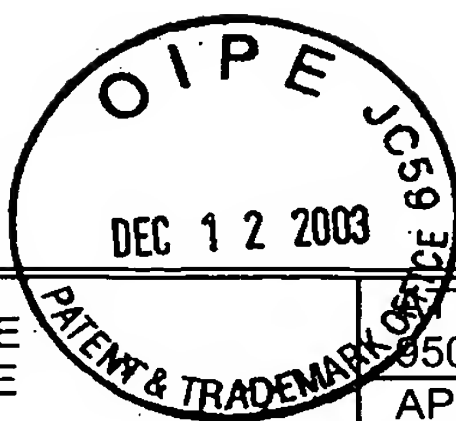
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AR	Jahn, "Physics of Electric Propulsion", pp. 126-130 (1968).
AS	Belogub et al., "Petrol-Hydrogen Truck With Load-Carrying Capacity 5 Tons", Int. J. Hydrogen Energy, Vol. 16, No. 6, pp. 423-426 (1991).
AT	Breshears et al., "Partial Hydrogen Injection Into Internal Combustion Engines", Proceedings of the EPA 1 <sup>st</sup> Symposium on Low Pollution Power Systems and Development, pp. 268-277 (October 1973).
AU	Chuvelliov et al., "Comparison of Alternative Energy Technologies Utilizing Fossil Fuels and Hydrogen Based on Their Damage to Population and Environment in the USSR and East Europe", pp. 269-300.
AV	Correa, "Lean Premixed Combustion for Gas-Turbines: Review and Required Research", PD-Vol. 33, Fossil Fuel Combustion, ASME, pp. 1-9 (1991).
AW	Czernichowski et al., "Multi-Electrodes High Pressure Gliding Discharge Reactor and its Applications for Some Waste Gas and Vapor Incineration", pp. 1-13 (1990).
AX	Das, "Exhaust Emission Characterization of Hydrogen-Operated Engine System: Nature of Pollutants and their Control Techniques", Int. J. Hydrogen Energy, Vol. 16, No. 11, pp. 765-775 (1991).
AY	Das, "Hydrogen Engines: A View of the Past and a Look into the Future", Int. J. of Hydrogen Energy, Vol. 15, No. 6, pp. 425-443 (1990).

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	BL	WO 96/24441A2	Aug. 15, 1996	PCT			X
	BM	WO 98/45582A1	Oct. 15, 1998	PCT			X
	BN	WO 95/06194A1	Mar. 2, 1995	PCT			X
	BO	WO 85/00159A1	Jan. 17, 1985	PCT			X
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## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

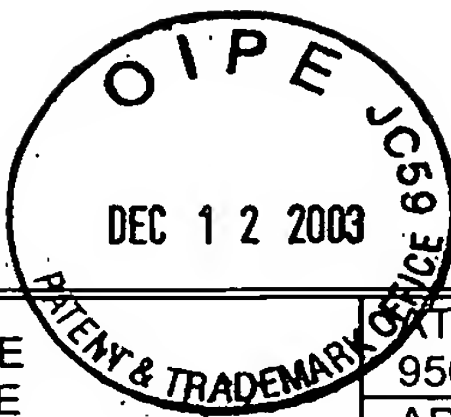
	BR	Das, "Fuel Induction Techniques for a Hydrogen Operated Engine", Int. J. of Hydrogen Energy", Vol. 15, No. 11, pp. 833-842 (1990).
	BS	DeLuchi, "Hydrogen Vehicles: An Evaluation of Fuel Storage, Performance, Safety, Environmental Impacts and Cost", Int. J. Hydrogen Energy, Vol. 14, No. 2, pp. 81-130 (1989).
	BT	Duclos et al., "Diagnostic Studies of a Pinch Plasma Accelerator", AIAA Journal, Vol. 1, No. 11, pp. 2505-2513 (November 1963).
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	BV	Finegold et al., "Dissociated Methanol as a Consumable Hydride for Automobiles and Gas Turbines", Proceedings of the 4 <sup>th</sup> World Hydrogen Energy Conference, Vol. 3, pp. 1359-1369 (June 13-17, 1982).
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	BY	Houseman, et al., "Two Stage Combustion for Low Emissions Without Catalytic Converters", Society of Automobile Engineering Meeting, SAE Paper 760759, pp. 1-9 (October 18-22, 1976).
	BZ	Jones, et al., "Exhaust-Gas Reforming of Hydrocarbon Fuels", Society of Automotive Engineers, Paper 931086, pp. 223-234 (1993).

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		Document Number	Date	Country	Class	Subclass	Translation Yes No
	CL	EP 0153116A2	Aug. 28, 1985	EPO			X
	CM	EP 0096538B1	Dec. 21, 1983	EPO			X
	CN	FR 2593493A1	Jul. 31, 1987	France			X(Abstract Only)
	CO	FR 2620436A1	Mar. 17, 1989	France			X(Abstract Only)
	CP	DE 19644864A1	May 7, 1998	Germany			X(Abstract Only)

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	CR	Kaske et al., "Hydrogen Production by the Hüls Plasma-Reforming Process", Hydrogen Energy Progress VI, Proceedings of the 6th World Hydrogen Energy Conference, Vol. 1, pp. 185-190 (July 20-24, 1986).
	CS	MacDonald, "Evaluation of Hydrogen-Supplemented Fuel Concept with an Experimental Multi-Cylinder Engine", Society of Automotive Engineers, Paper 760101, pp. 1-16 (February 23-27, 1976).
	CT	Mackay, "Development of a 24 kW Gas Turbine-Driven Generator Set for Hybrid Vehicles", Paper 940510, pp. 99-105, NoMac Energy Systems, Inc.
	CU	Mackay, "Hybrid Vehicle Gas Turbines", Paper 930044, NoMac Energy Systems, Inc., pp. 35-41.
	CV	Matthews et al., "Further Analysis of Railplugs as a New Type of Ignitor", Paper 922167, pp. 1851-1862 (1992).
	CW	Mishchenko et al., "Hydrogen as a Fuel for Road Vehicles", Proc. VII World Hydrogen Energy Conference", Vol. 3, pp. 2037-2056 (1988).
	CX	Monroe et al., "Evaluation of a Cu/Zelite Catalyst to Remove NO <sub>x</sub> from Lean Exhaust", Society of Automotive Engineers, Paper 930737, pp. 195-203 (1993).
	CY	Rabinovich et al., "On Board Plasmatron Generation of Hydrogen-Rich Gas for Engine Pollution Reduction", Proceedings of NIST Workshop on Advanced Components for Electric and Hybrid Electric Vehicles, pp. 83-88 (October 1993) (not published).

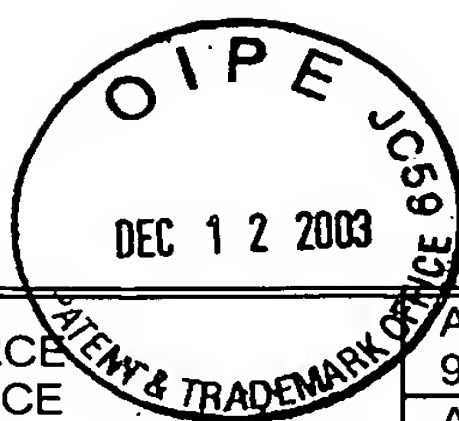
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	DL	DE 19510804A1	Sep. 26, 1996	Germany			X(Abstract Only)
	DM	DE 19757936A1	Jul. 8, 1999	Germany			X(Abstract Only)
	DN	DD 237120A1	Jul. 2, 1986	Germany (East)			X(Abstract Only)
	DO	DE 3048540A1	Jul. 22, 1982	Germany			X(Abstract Only)
	DP	GB 1221317	Feb. 3, 1971	United Kingdom			X(Abstract Only)

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	DR	Rabinovich et al., "Plasmatron Internal Combustion Engine System for Vehicle Pollution Reduction", Int. J. of Vehicle Design, Vol. 15, Nos. 3/4/5, pp. 234-242 (1994).
	DS	Scott et al., "Hydrogen Fuel Breakthrough with On-Demand Gas Generator", 372 Automotive Engineering, Vol. 93, No. 8, pp. 81-84 (Aug. 1985).
	DT	Shabalina et al., "Slag Cleaning by Use of Plasma Heating", pp. 1-7.
	DU	Handbook of Thermodynamic High Temperature Process Data, "Conversion of Hydrocarbons and Production of Reducing Gases in the C-H-O and C-H-O-N Systems", Chapter Nine, pp. 507-547.
	DV	Varde et al., "Reduction of Soot in Diesel Combustion with Hydrogen and Different H/C Gaseous Fuels", Hydrogen Energy Progress V, pp. 1631-1639.
	DW	Wang et al., "Emission Control Cost-Effectiveness of Alternative-Fuel Vehicles", Society of Automotive Engineers, Paper 931786, pp. 91-122 (1993).
	DX	Wilson, "Turbine Cars", Technology Review, pp. 50-56 (February/March, 1995).
	DY	Kirwan et al., "Fast Start-Up On-Board Gasoline Reformer for Near Zero Emissions in Spark-Ignition Engines", Society of Automotive Engineers 2002 World Congress, Paper No. 2002-01-1011, 14 pgs. (March 4-7, 2002).
	DZ	Kirwan et al., "Development of a Fast Start-up O Gasoline Reformer for Near Zero Spark-Ignition Engines", Delphi Automotive Systems, pp. 1-21 (2001).

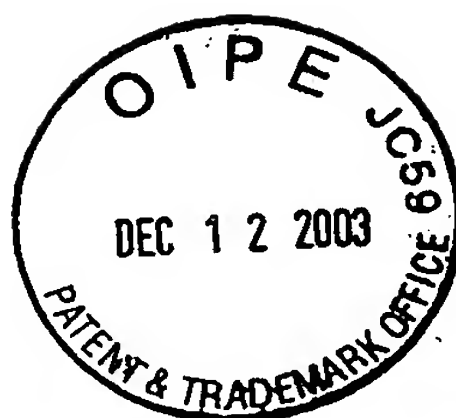
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	EO	JP 07292372A2	Nov. 7, 1995	Japan			X(Abstract Only)
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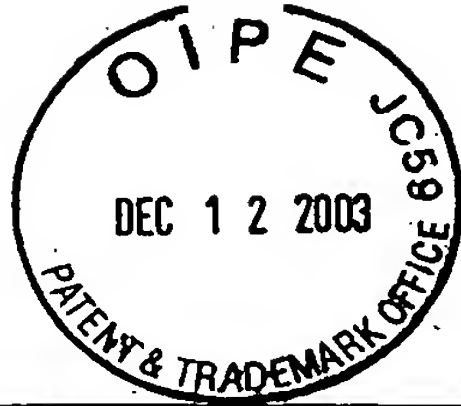
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	ES	Simanaitis, "Whither the Automobile?", Road and Track, pp. 98-102 (September 2001).
	ET	Shelef et al., "Twenty-five Years after Introduction of Automotive Catalysts: What Next?" Catalysis Today 62, pp. 35-50 (2000).
	EU	Stokes et al., "A Gasoline Engine Concept for Improved Fuel Economy - The Lean Boost System", International Falls Fuels and Lubricants Meeting and Exposition, SAE Technical Paper Series, 14 pgs. (October 16-19, 2000).
	EV	Tachtler et al., "Fuel Cell Auxiliary Power Unit - Innovation for the Electric Supply of Passenger Cars?", Society of Automotive Engineers, Paper No. 2000-01-0374, pp. 109-117 (2000).
	EW	Bromberg et al., "Experimental Evaluation of SI Engine Operation Supplemented by Hydrogen Rich Gas from a Compact Plasma Boosted Reformer", Massachusetts Institute of Technology Plasma Science and Fusion Center Report, JA-99-32, 9 pgs. (1999).
	EX	Bromberg et al., "Compact Plasmatron-Boosted Hydrogen Generation Technology for Vehicular Applications", Int. J. of Hydrogen Energy 24, pp 341-350 (1999).

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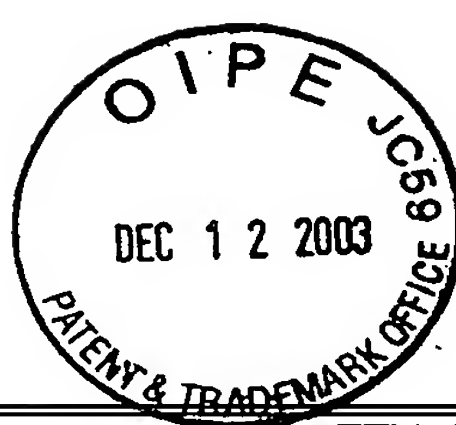
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	FO	GB 2188559A	Oct. 7, 1987	United Kingdom			X
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	FR	Bromberg et al., "Emissions Reductions Using Hydrogen from Plasmatron Fuel Converters", Int. J. of Hydrogen Energy 26, pp. 1115-1121 (2001).					
	FS	Burch et al., "An Investigation of the NO/H <sub>2</sub> /O <sub>2</sub> Reaction on Noble-Metal Catalysts at Low Temperatures Under Lean-Burn Conditions," Applied Catalysis B: Environmental 23, pp. 115-121 (1999).					
	FT	Costa et al., "An Investigation of the NO/H <sub>2</sub> /O <sub>2</sub> (Lean De-NO <sub>x</sub> ) Reaction on a Highly Active and Selective Pt/La <sub>0.7</sub> Sr <sub>0.2</sub> Ce <sub>0.1</sub> FeO <sub>3</sub> Catalyst at Low Temperatures", Catalysis 209, pp. 456-471 (2002).					
	FU	Frank et al., "Kinetics and Mechanism of the Reduction of Nitric Oxides by H <sub>2</sub> Under Lean-Burn Conditions on a Pt-Mo-Co/ $\alpha$ -Al <sub>2</sub> O <sub>3</sub> Catalyst", Applied Catalysis B: Environmental 19, pp. 45-57 (1998).					
	FV	Gore, "Hydrogen A Go-Go", Discover, pp. 92-93, (July, 1999).					
	FW	Koebel et al., "Selective Catalytic Reduction of NO and NO <sub>2</sub> at Low Temperatures", Catalysis Today 73, pp. 239-247 (2002).					
	FX	Nanba et al., "Product Analysis of Selective Catalytic Reduction of NO <sub>2</sub> with C <sub>2</sub> H <sub>4</sub> Over H-Ferrierite", Journal of Catalysis 211, pp. 53-63 (2002).					
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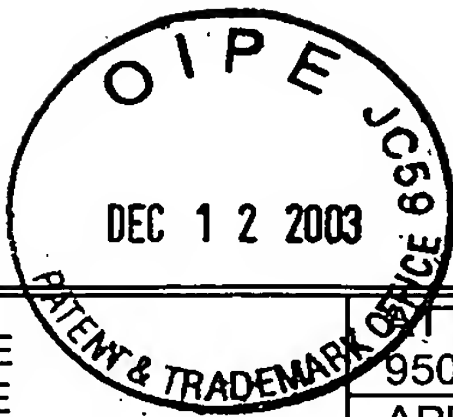
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	GN	WO 96/27078A1	Sept. 6, 1996	PCT			X
	GO	JP 54-74419	June 12, 1979	Japan			X
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